

## ABSTRACT OF THE DISCLOSURE

A substrate polishing apparatus polishes a substrate such as a semiconductor wafer to a flat mirror finish. The substrate polishing apparatus according to the present invention has a polishing table against which a substrate is pressed, a  
5 light-emitting and light-receiving device to emit measurement light from the polishing table to the substrate and to receive reflected light from the substrate for measuring a film on the substrate, a fluid supply passage for supplying a fluid for measurement, through which the measurement light and the reflected light pass, to a fluid chamber provided at a light-emitting and light-receiving position of the  
10 polishing table, and a fluid supply control device for controlling supply of the fluid for measurement to the fluid chamber.